

II. LISTING OF CLAIMS

1. (Original) A semiconductor device comprising:
a substrate;
a dielectric layer atop the substrate, the dielectric layer including a first sub-layer, a second sub-layer and a first non-discrete transitional sub-layer residing between the first and second sub-layer, wherein the first sub-layer has an etch resistance different than the second sub-layer; and
an opening extending no deeper than the sub-layer nearest the substrate.
2. (Original) The semiconductor device according to claim 1, wherein an etch resistance of the first sub-layer is greater than an etch resistance of the second sub-layer.
3. (Original) The semiconductor device according to claim 1, wherein the first sub-layer has a greater content of at least one of carbon and fluorine than the second sub-layer.
4. (Original) The semiconductor device according to claim 1, wherein the first sub-layer includes at least one component not included in the second sub-layer, the at least one component being selected from a group consisting of fluoroalkylsilanes, fluoralkylsiloxanes, perfluoroalkylsilanes, perfluoroalkylsiloxanes, alkylsilanes, and alkylsiloxanes.
5. (Original) The semiconductor device according to claim 4, wherein the at least one component is selected from a group consisting of methylsilane, dimethylsilane, trimethylsilane,

trifluoromethylsilane, 1,2-disilanotetrafluorethylene, 1,3-bis(silanodifluoromethylene)disiloxane, 2,2-disilanohexafluorosilane, bis(trifluoromethylidisiloxanyl)difluormethane, octamethylcyclotetrasiloxane, and tetramethylcyclotetrasiloxane.

6. (Original) The semiconductor device according to claim 1, wherein the dielectric layer includes a third sub-layer residing between the substrate and the first sub-layer and a second non-discrete transitional sub-layer residing between the third sub-layer and the first sub-layer.

7. (Original) The semiconductor device according to claim 6, wherein the second sub-layer and the third sub-layer have substantially the same etch resistance.

8. (Withdrawn) A method of modifying a dielectric layer during deposition, the method comprising the steps of:

continuously depositing a dielectric layer onto a substrate; and

modifying at least one of a dielectric layer composition and a deposition condition during the depositing step.

9. (Withdrawn) The method of claim 8, wherein the modifying step includes removing at least one component of the dielectric layer composition, the component selected from a group consisting of fluoroalkylsilanes, fluoroalkylsiloxanes, perfluoroalkylsilanes, perfluoroalkylsiloxanes, alkylsilanes, and alkylsiloxanes.

10. (Withdrawn) The method of claim 9, wherein the at least one component is selected from a group consisting of methylsilane, dimethylsilane, trimethylsilane, trifluoromethylsilane, 1,2-disilanotetrafluorethylene, 1,3-bis(silanodifluoromethylene)disiloxane, 2,2-disilanohexafluorosilane, bis(trifluoromethylidisiloxanyl)difluormethane, octamethylcyclotetrasiloxane, and tetramethylcyclotetrasiloxane.
11. (Withdrawn) The method of claim 8, wherein the modifying step is temporary.
12. (Withdrawn) The method of claim 11, wherein the modifying step includes adding at least one component to the dielectric layer composition, the component selected from a group consisting of fluoroalkylsilanes, fluoralkylsiloxanes, perfluoroalkylsilanes, perfluoroalkylsiloxanes, alkylsilanes, and alkylsiloxanes.
13. (Withdrawn) The method of claim 12, wherein the at least one component is selected from a group consisting of methylsilane, dimethylsilane, trimethylsilane, trifluoromethylsilane, 1,2-disilanotetrafluorethylene, 1,3-bis(silanodifluoromethylene)disiloxane, 2,2-disilanohexafluorosilane, bis(trifluoromethylidisiloxanyl)difluormethane, octamethylcyclotetrasiloxane, and tetramethylcyclotetrasiloxane.
14. (Withdrawn) The method of claim 8, wherein the deposition condition includes at least one of temperature, pressure, flow rate of dielectric layer components, and plasma power.

15. (Withdrawn) The method of claim 8, wherein the modifying step decreases at least one of the carbon content and fluorine content of the dielectric layer.
16. (Withdrawn) The method of claim 8, wherein the modifying step increases at least one of the carbon content and the fluorine content of the dielectric layer.
17. (Withdrawn) A method of forming at least one opening in a dielectric layer, the method comprising the steps of:
- continuously depositing a dielectric layer onto a substrate;
 - modifying at least one of a dielectric layer composition and a deposition condition; and
 - forming an opening in the dielectric layer.
18. (Withdrawn) The method of claim 17, wherein the modifying step is temporary.
19. (Withdrawn) The method of claim 17, wherein the opening extends to the substrate.
20. (Withdrawn) The method of claim 17, wherein the opening extends to a depth not greater than a depth at which the at least one of the dielectric layer composition and the deposition condition were not modified.